

**AMENDMENT TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1        1. (Currently Amended) A method of modifying a subscription of a subscriber to one or  
2        more telecommunications services based on subscriber information and service  
3        information that are stored in a directory repository, the method comprising the  
4        computer-implemented steps of:  
5            determining whether the subscriber is currently logged in, and if the subscriber is not  
6            currently logged in, directing the subscriber to log in through an  
7            authentication server and generating, by an authorization service, a privilege  
8            token associated with the authenticated subscriber that includes subscriber  
9            privilege information by an authorization service, wherein said authorization  
10          service is separate from said authentication server;  
11          receiving a modification request to modify the subscription of the subscriber to the  
12          one or more telecommunication services;  
13          determining, based on subscriber privilege information in the privilege token  
14          associated with the subscriber generated by the authorization service, whether  
15          the subscriber has ~~privileges services~~ sufficient to carry out the requested  
16          modification;  
17          if the subscriber is determined to have sufficient privileges, then performing the steps  
18          of:  
19            receiving, from the directory repository, first subscriber information and first  
20            service information representing only such services for which the  
21            subscriber is then currently subscribed;

22           modifying the first subscriber information and first service information to  
23           reflect the modification;  
24           sending the modified information to the directory repository, resulting in  
25           creating and storing, in the directory repository, second service  
26           information that reflects the modification;  
27           generating an engagement request to engage the telecommunications service  
28           for the subscriber in order to fulfill the modification request.

1    2.       (Currently Amended) A method as recited in Claim 1, wherein the authorization  
2    service generates the privilege token by the steps of:  
3           receiving a user name associated with the subscriber and mapping the user name to a  
4           distinguished name in the directory repository;  
5           creating and storing as subscriber privilege information in the privilege token one or  
6           more roles occupied by the subscriber based on role information that is stored  
7           in the directory repository, said stored role information including mapping  
8           information that maps a role to one or more privileges that specify which  
9           telecommunications services a subscriber having that role can subscribe to.

1    3.       (Previously Presented) A method as recited in Claim 1, wherein the step of  
2    determining whether the subscriber is currently logged in comprises determining whether a  
3    host object that uniquely identifies the subscriber exists, and wherein the privilege token  
4    associated with the subscriber is stored with the host object that uniquely identifies the  
5    subscriber.

1     4.     (Previously Presented) A method as recited in Claim 1, wherein the step of generating  
2     an engagement request comprises the steps of subscribing the subscriber to the service by  
3     creating and storing a relation of a subscriber object that programmatically represents the  
4     subscriber to a service object that programmatically represents the service, and creating and  
5     storing one or more attribute values in the relation, wherein the attribute values define the  
6     subscription.

1     5.     (Currently Amended) A method of modifying subscriptions of a group of subscribers  
2     to one or more telecommunications services based on subscriber information and service  
3     information that are stored in a directory repository, the method comprising the computer-  
4     implemented steps of:

5             receiving from an administrator of the group, a request to modify the subscriptions of  
6             the subscribers to the one or more telecommunications services;  
7             determining, based on subscriber privilege information in a privilege token that is  
8             associated with the administrator and is generated by an authorization service,  
9             whether the administrator has privileges sufficient to carry out the requested  
10            modification;

11           if the administrator is determined to have sufficient privileges, then performing the  
12           steps of:

13           receiving, from the directory repository, current subscriber information and  
14           current service information representing then-current services to which  
15           the subscribers are subscribed;  
16           modifying the subscriber information and service information to reflect the  
17           modifications, resulting in creating and storing, in the directory  
18           repository, updated service information that reflects the modifications;

19                   generating one or more requests to subscribe the telecommunications service  
20                   to the group of subscribers to fulfill the request of the administrator.

1     6.       (Original) A method as recited in Claim 5, wherein the group of subscribers is  
2     defined explicitly by creating and storing a named group that contains one or more  
3     subscribers as group members.

1     7.       (Original) A method as recited in Claim 5, wherein the group of subscribers is  
2     defined implicitly such that the group comprises one or more subscribers in an object tree of  
3     the directory repository who are subordinate in the tree to a container node of the tree.

1     8.       (Original) A method as recited in Claim 5, further comprising the steps of subscribing  
2     one of the subscribers in the group to the service by creating and storing a relation of a  
3     subscriber object that programmatically represents the subscriber to a service object that  
4     programmatically represents the service, and creating and storing one or more attribute  
5     values in the relation, wherein the attribute values define the subscription.

1     9.       (Currently Amended) A method of automatically logging in a subscriber to all  
2     telecommunications services subscribed to by the subscriber based on subscriber information  
3     and service information that are stored in a directory repository, the method comprising the  
4     computer-implemented steps of:  
5         receiving a request from the subscriber to log in to the telecommunications services;  
6         authenticating the subscriber by an authentication server;

7 generating a privilege token associated with the subscriber by an authorization  
8 service, said privilege token including subscriber privilege information,  
9 wherein said authorization service is separate from said authentication server;  
10 determining whether the subscriber is allowed to automatically log into the  
11 telecommunication services, said determination based on subscriber privilege  
12 information in the privilege token associated with the subscriber;  
13 if the subscriber is allowed to automatically log into the telecommunications services,  
14 receiving, from the directory repository, a list of all services for which the  
15 subscriber is then currently subscribed, and automatically logging the  
16 subscriber into all services identified in the list.

1 10. (Original) A method as recited in Claim 9, wherein automatically logging the  
2 subscriber into all services identified in the list comprises the steps of:  
3 for each of the services identified in the list:  
4 obtaining service information that describes the services from the directory  
5 repository;  
6 creating and storing a relation between a service object in the directory repository that  
7 uniquely identifies and represents each of the services and privileges of the  
8 subscriber, and a subscriber object that uniquely represents the subscriber.

1 11. (Original) A method as recited in Claim 10, further comprising the steps of storing  
2 the privilege token in a service selection gateway for use in subsequent authorization  
3 processes relating to the subscriber.

1 12. (Cancelled)

1    13.    (Previously Presented) A method of automatically subscribing a subscriber to a  
2    telecommunications service based on subscriber information and service information that are  
3    stored in a directory repository, the method comprising the computer-implemented steps of:  
4        receiving a request from the subscriber to obtain a list of available  
5        telecommunications services;  
6        generating a list of only those telecommunications services for which the subscriber  
7        has a privilege to subscribe to, based on privilege information and service  
8        information that is stored in the directory repository and associated with the  
9        subscriber, said privilege information associated with the subscriber  
10       specifying what telecommunications services the subscriber has privileges to  
11       subscribe to;  
12       receiving a subscriber selection of one of the telecommunications services from the  
13       generated list of telecommunications services;  
14       verifying that the subscriber has privileges that permit the subscriber to subscribe to  
15       the selected telecommunications service;  
16       creating and storing updated subscription information in the directory repository;  
17       generating a request to subscribe the subscriber to the selected telecommunications  
18       service based on the updated subscription information.

1    14.    (Previously Presented) A method as recited in Claim 13, wherein said privilege  
2    information associated with the subscriber is comprised of a privilege token for the  
3    subscriber that identifies a role of the subscriber, wherein the privileges of the subscriber to  
4    subscribe to a telecommunications service is determined by the role in the privilege token for  
5    the subscriber.

1    15.    (Original) A method as recited in Claim 13, wherein generating a list of only those  
2    telecommunications services for which the subscriber has a privilege to subscribe to includes  
3    the step of generating and providing to the subscriber a custom display page that identifies  
4    only those telecommunications services for which the subscriber has a privilege to subscribe.

1    16.    (Currently Amended) A computer-readable medium carrying one or more sequences  
2    of instructions for modifying a subscription of a subscriber to one or more  
3    telecommunications services based on subscriber information and service information that  
4    are stored in a directory repository, which instructions, when executed by one or more  
5    processors, cause the one or more processors to carry out the steps of:  
6            determining whether the subscriber is currently logged in, and if the subscriber is not  
7            currently logged in, directing the subscriber to log in through an  
8            authentication server and generating, by an authorization service, a privilege  
9            token associated with the authenticated subscriber that includes subscriber  
10           privilege information ~~by an authorization service~~, wherein said authorization  
11           service is separate from said authentication server;  
12           receiving a modification request to modify the subscription of the subscriber to the  
13           one or more telecommunications services;  
14           determining, based on subscriber privilege information in the privilege token  
15           associated with the subscriber generated by the authorization service, whether  
16           the subscriber has privileges sufficient to carry out the requested modification;  
17           if the subscriber is determined to have sufficient privileges, the one or more  
18           sequences of instructions which, when executed, further cause the one or more  
19           processors to carry out the steps of:

20 receiving, from the directory repository, first subscriber information and first  
21 service information representing only such services for which the  
22 subscriber is then currently subscribed;  
23 modifying the first subscriber information and first service information to  
24 reflect the modification;  
25 sending the modified information to the directory repository, resulting in  
26 creating and storing, in the directory repository, second service  
27 information that reflects the modification;  
28 generating an engagement request to engage the telecommunications service  
29 for the subscriber in order to fulfill the modification request.

1 17. (Currently Amended) An apparatus for modifying a subscription of a subscriber to  
2 one or more telecommunications services based on subscriber information and service  
3 information that are stored in a directory repository, comprising:  
4 means for determining whether the subscriber is currently logged in, and if the  
5 subscriber is not currently logged in, means for directing the subscriber to log  
6 in through an authentication server and means for generating a privilege token  
7 associated with the authenticated subscriber by an authorization service, said  
8 privilege token including subscriber privilege information, wherein said  
9 authorization service is separate from said authentication server;  
10 means for receiving a modification request to modify the subscription of the  
11 subscriber to the one or more telecommunications services;  
12 means for determining, based on subscriber privilege information in the privilege  
13 token associated with the subscriber generated by the authorization service,



14           whether the subscriber has privileges sufficient to carry out the requested  
15           modification;  
16       means for receiving, from the directory repository, first subscriber information and  
17           first service information representing only such services for which the  
18           subscriber is then currently subscribed;  
19       means for modifying the first subscriber information and first service information to  
20           reflect the modification;  
21       means for sending the modified information to the directory repository, resulting in  
22           creating and storing, in the directory repository, second service information  
23           that reflects the modification;  
24       means for generating an engagement request to engage the telecommunications  
25           service for the subscriber in order to fulfill the modification request.

1    18.   (Currently Amended) An apparatus for modifying a subscription of a subscriber to  
2           one or more telecommunications services based on subscriber information and service  
3           information that are stored in a directory repository, comprising:  
4           a network interface that is coupled to a data network that includes the directory  
5                repository for receiving information therefrom;  
6           a processor;  
7           one or more stored sequences of instructions which, when executed by the processor,  
8                cause the processor to carry out the steps of:  
9                determining whether the subscriber is currently logged in, and if the  
10               subscriber is not currently logged in, directing the subscriber to log in  
11               through an authentication server and generating, by an authorization  
12               service, a privilege token associated with the authenticated subscriber

13                    that includes subscriber privilege information by an authorization  
14                    ~~service~~, wherein said authorization service is separate from said  
15                    authentication server;  
16                    receiving a modification request to modify the subscription of the subscriber  
17                    to the one or more telecommunications services;  
18                    determining, based on subscriber privilege information in the privilege token  
19                    associated with the subscriber that is generated by the authorization  
20                    service, whether the subscriber has privileges sufficient to carry out  
21                    the requested modification;  
22                    if the subscriber is determined to have sufficient privileges, the one or more  
23                    sequences of instructions which, when executed, further cause the  
24                    processor to:  
25                    receiving, from the directory repository, first subscriber information  
26                    and first service information representing only such services  
27                    for which the subscriber is then currently subscribed;  
28                    modifying the first subscriber information and first service information  
29                    to reflect the modification;  
30                    sending the modified information to the directory repository, resulting  
31                    in creating and storing, in the directory repository, second  
32                    service information that reflects the modification;  
33                    generating an engagement request to engage the telecommunications  
34                    service for the subscriber in order to fulfill the modification  
35                    request.

1     19.     (Previously Presented) A method of modifying a subscription of a subscriber to a  
2     telecommunications service based on information stored in a directory repository, the method  
3     comprising the computer-implemented steps of:

4             receiving a request to identify one or more services to which a subscriber is  
5             subscribed, based on a prior request to modify the subscription of the  
6             subscriber to the telecommunications service;  
7             generating a list of the one or more services to which the subscriber is currently  
8             subscribed, based on group membership of the subscriber, one or more roles  
9             occupied by the subscriber, and authorization information associated with the  
10            subscriber that is stored in the directory repository, wherein said one or more  
11            roles are mapped to one or more privileges that specify which  
12            telecommunications services a subscriber having that role can subscribe to;  
13            generating individual service information for each of the one or more services in the  
14            list, based on subscriber information and service information that is stored in  
15            the directory repository, for use in automatically subscribing the subscriber to  
16            a service that is represented by the individual service information.

1     20.     (Previously Presented) A computer-readable medium carrying one or more sequences  
2     of instructions for modifying a subscription of a subscriber to a telecommunications service  
3     based on subscriber information and service information that are stored in a directory  
4     repository, which instructions, when executed by one or more processors, cause the one or  
5     more processors to carry out the steps of:

6             receiving a request to identify one or more services to which a subscriber is  
7             subscribed, based on a prior request to modify the subscription of the  
8             subscriber to the telecommunications service;

9       generating a list of the one or more services to which the subscriber is currently  
10           subscribed, based on group membership of the subscriber, one or more roles  
11           occupied by the subscriber, and authorization information associated with the  
12           subscriber that is stored in the directory repository, wherein said one or more  
13           roles are mapped to one or more privileges that specify which  
14           telecommunications services a subscriber having that role can subscribe to;  
15       generating individual service information for each of the one or more services in the  
16           list, based on subscriber information and service information that is stored in  
17           the directory repository, for use in automatically subscribing the subscriber to  
18           a service that is represented by the individual service information.

1   21.   (Previously Presented) An apparatus for modifying a subscription of a subscriber to a  
2   telecommunications service based on subscriber information and service information that are  
3   stored in a directory repository, comprising:  
4       means for receiving a request to identify one or more services to which a subscriber is  
5           subscribed, based on a prior request to modify the subscription of the  
6           subscriber to the telecommunications service;  
7       means for generating a list of the one or more services to which the subscriber is  
8           currently subscribed, based on group membership of the subscriber, one or  
9           more roles occupied by the subscriber, and authorization information  
10          associated with the subscriber that is stored in the directory repository,  
11          wherein said one or more roles are mapped to one or more privileges that  
12          specify which telecommunications services a subscriber having that role can  
13          subscribe to;

14 means for generating individual service information for each of the one or more  
15 services in the list, based on subscriber information and service information  
16 that is stored in the directory repository, for use in automatically subscribing  
17 the subscriber to a service that is represented by the individual service  
18 information.

1 22. (Previously Presented) An apparatus for modifying a subscription of a subscriber to a  
2 telecommunications service based on subscriber information and service information that are  
3 stored in a directory repository, comprising:  
4 a directory-enabled service selection framework that is coupled to the directory  
5 repository for receiving stored information therefrom;  
6 a processor;  
7 one or more stored sequences of instructions in the framework which, when executed  
8 by the processor, cause the processor to carry out the steps of:  
9 receiving a request to identify one or more services to which a subscriber is  
10 subscribed, based on a prior request to modify the subscription of the  
11 subscriber to the telecommunications service;  
12 generating a list of the one or more services to which the subscriber is  
13 currently subscribed, based on group membership of the subscriber,  
14 one or more roles occupied by the subscriber, and authorization  
15 information associated with the subscriber that is stored in the  
16 directory repository, wherein said one or more roles are mapped to one  
17 or more privileges that specify which telecommunications services a  
18 subscriber having that role can subscribe to;

19 generating individual service information for each of the one or more services  
20 in the list, based on subscriber information and service information  
21 that is stored in the directory repository, for use in automatically  
22 subscribing the subscriber to a service that is represented by the  
23 individual service information.